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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,467	02/02/2000	Lawrence E Bodkin SR.	D-7211(1156)	6270

7590 05/08/2002

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EXAMINER

HAWKINS GAY, JENNIFER M

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/496,467	BODKIN, LAWRENCE E
	Examiner	Art Unit
	Jennifer H Gay	3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 April 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-5,7-10 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 7-10 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 15-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 February 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly amended claims 1-5 and 7-10 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 1-5 and 7-10 are now drawn to the embodiment shown in Figure 5 of the instant application. This embodiment has not been previously claimed and would require a completely different search. If this embodiment had been included in the original claims as restriction would have been required.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 1-5 and 7-10 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the experiment/demonstration now claimed in claim 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 15-18 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. All of the above claims are directed toward the Applicant's "revised buoyancy law". Laws of nature, such as Archimedes' Principle (see Elementary Fluid Mechanics, pages 64 and 65 and *Archimedes' Principle*), are not considered statutory subject matter thus are not patentable and, as seen in Physics, 4th Edition, the Applicant's "revised buoyancy law" is considered part of the established law of buoyancy. Further, any new discoveries, such as a new law of nature, are considered "manifestations of... nature, free to all men and reserved exclusively to none." (See MPEP 2105)

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Physics, 4th Edition.

Physics discloses that when an object, such as a ship, is placed in a cavity that is conformal in shape to that object and the space between the walls of the cavity and the sides of the object is small, all that is needed to float the object is a "very small volume" of liquid that could "fit into a single glass". The walls of this cavity are of a height that is greater than the height reached by the fluid when the object is placed in the cavity thus can retain the volume displaced. Further, the level to which the displaced fluid rises can be observed by peering over the side of the canal. (See page 321, Conceptual Example 9 and Figure 11.21)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 15-18 are rejected under 35 U.S.C. 102(b) as anticipated by Physics, 4th Edition as recited in paragraph 6 above or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stevens (US 6,254,396 B1) in view of Physics, 4th Edition.

If the applicant does not agree with the examiner's statement that the fluid level in Physics can be observed then the examiner makes the following rejection.

Stevens teaching device for science experiments. The device includes a transparent outer rigid container (100) that has four sides and a bottom to completely enclose liner (110) that is of similar shape. The transparent outer container allows things such as fluids, see Abstract, to be "viewed by a group of students" (see col. 6, lines 64-67).

Stevens discloses all of the limitations of the above claims except for the concept of a body floating in a cavity where the buoyant force exceeds the weight of the volume of liquid displaced.

Physics discloses that when an object, such as a ship, is placed in a cavity that is conformal in shape to that object and the space between the walls of the cavity and the sides of the object is small, all that is needed to float the object is a "very small volume" of liquid that could "fit into a single glass". The walls of this cavity are of a height that is greater than the height reached by the fluid when the object is placed in the cavity thus can retain the volume displaced. (See page 321, Conceptual Example 9 and Figure 11.21)

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used the teaching aid of Stevens to demonstrate the principle taught by Physics in order to have provided a way to clearly teach students about this portion of Archimedes' Principle.

Response to Arguments

9. In view of the applicant's amendment the objections to claims 9, 10, and 17 and the 35 U.S.C. 112.2 rejections of claims 2, 5-8, and 10 have been withdrawn.

10. Applicant's arguments filed 11 April 2002 have been fully considered but they are not persuasive.

In response to applicant's statement that the claims had been amended to particularly point out and define the utility of the invention, the examiner would like to reiterate that the specific utility of the applicant's claimed invention has never been in question. The reason for the examiner's 35 U.S.C. 101 rejection was that the applicant is claiming a natural law. The Federal Courts have upheld that natural laws are not patentable.

In response to applicant's argument that the canal of Physics is not a conformal cavity as the examiner agreed to in paragraph 10 of the previous Office Action, the examiner disagrees. The examiner would like to clarify the statement in paragraph 10 of the previous Office Action; the examiner meant that the canals disclosed in the prior art applied in the Office Action mailed on 19 February 2002 were not conformal cavities, not that all canals were not conformal cavities.

In response to applicant's argument that the canal of Physics would need to furnish the ship with closely spaced walls on all sides in order to perform as suggested, this statement seems to support the examiner's statements in the previous Office Action.

In response to applicant's argument that the ship in the canal of Physics would be subjected to conditions no different than in open water, the examiner disagrees. Even if the applicant believes, as has been stated in the last amendment, that the canal of Physics does not have a front and back, the conditions in a canal are inherently different than that of the conditions in open water. Further, a canal is not necessarily devoid of a front and back wall and as stated by the applicant, and in the paragraph immediately above, the canal disclosed in Physics must have a front and back wall in order for the principles taught by Physics to work.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the canal of Physics does not have a front and back wall) are not recited in the rejected claim(s). Although

the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that Physics is misleading and confusing to anyone trying to understand the fundamentals of the claimed principle because there is no restriction to the amount of water supporting the ship, the examiner does not understand the point the applicant is trying to make. However, the examiner does not find the article difficult to understand and feels that Physics teaches all of the claimed limitations.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

SU 1709379 and SU 1045245 disclose various teaching aids used in teaching simple physics concepts.

Graham, Jr. et al. discloses a device inserted into a test tube where the device is somewhat conformal to the walls of the test tube.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3672

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Friday, 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

JHG 
April 29, 2002


DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
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